

The Citizen Forester

SEPTEMBER 2014

The Best Management Practices: Tree Inventories

By **Rick W. Harper** Recalling that the Best Management Practice (BMP) companion publications are developed by the International Society of Arboriculture (ISA) for application by arborists and urban forestry practitioners to aid in the “interpretation of the professional standards and to guide work practices based on current science and technology,” we now examine *Tree Inventories* (2nd ed., 2013) by Jerry Bond.

Designed for professionals who manage the “urban forest” (i.e. trees within public jurisdictions, like cities, towns, or villages, or trees on private grounds, such as colleges and universities, other institutions, cemeteries, or homeowners associations), this guide was developed to “describe best practices for developing and utilizing tree inventories.” A tree inventory is described as a “record of attributes (location and characteristics) of individual trees within a defined geographic area” with the “premise” for a tree inventory being that “trees are infrastructure, and should be managed as such.” Tree inventories are comprised of urban trees or sites (the features), location information



must be properly defined and considered. The guide outlines four common objectives of inventories:

1. Determine population size and characteristics
2. Assess tree risk
3. Determine maintenance needs
4. Record work history.

This BMP guide describes many of the benefits associated with tree inventories, including increased efficiency, improved community relations, emergency preparedness, justified budgets, comprehensive planting plans, improved pest response, documented actions, and an increased understanding and appreciation of the environmental benefits of an urban forest. Though these are all detailed individually, they are presented in the context of what the guide calls the “overarching benefit” of having a tree inventory:

“[...] that it gives the manager a chance to change the operation from a predominantly *reactive* position – always “putting out a fire – to a *proactive* position, where a significant portion of daily work occurs within the framework of information, planning, and policy.” (p.8)

Though costs of the inventory are described generally as being categorized into three main areas (data collection, software, and maintenance) they are detailed individually to include office personnel, data collection equipment, computing needs, software type and compatibility, and data ownership. Identifying one’s actual needs and budget and comparing them to the features of each of these costs is identified as the optimal planning strategy. The guide includes a feature discussion defining and outlining the components of the publicly-available urban forest inventory analysis tool known as i-Tree (www.iTreetools.org; p.10.) The guide also features a reader-friendly table (Table 1, p.11) comparing the costs associated with data collection personnel options (i.e. volunteers vs. paid professionals.)

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(attributes), and a variety of qualitative and quantitative values, like diameter at breast height (DBH) or tree condition. They are accompanied by an inventory report (i.e. a simple report consisting of charts, tables, lists, and maps summarizing the tree inventory data) and ideally a management plan that details goals, objectives, budgets, and strategies.

According to the BMP guide, goals and objectives of the tree inventory

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What are the Best Management Practices?

The BMP continues to further identify urban tree “inventory types” that include:

1. Sample Tree Inventories – a small % (usually only 3-10%) of the street section, blocksides, specified mileage, or area that provides an accurate estimate (+/- 10%) of the total street tree population
2. Partial Tree Inventories – a collection of urban tree data from a select neighborhood of the community or by tree attribute (e.g. historic trees)
3. Complete Tree Inventories – all trees within the urban forest or defined geographic limits.

Since inventories provide a mere snapshot of the urban forest, this guide is quick to encourage the professional to consider if the inventory will be used as a continuous management tool, requiring routine updating and maintenance, or as a one-time information-gathering exercise.

The guide details the information typically found within a tree inventory, including general location information, such as neighborhoods or wards, and detailed location information, including house address, geographic coordinates, GIS map location and/or tags used to identify specific trees. Standard information pertaining to the trees

themselves derived from a specific inventory may include species, a variety of measurements like DBH, height and crown spread, condition (good, fair, poor, dead) and a rating of tree risk. Maintenance recommendations such as removal or pruning, with the possible addition of a priority rating system, are also regularly found in a standard tree inventory. Additional information, including photographs and pest-related details may also be included to help further contextualize the state of the urban forest to the urban forest manager and to communicate the inventory to interested parties.

The *Tree Inventories* BMP closes with a final chapter concerning quality of the data being collected from a tree inventory. Urban forest managers are encouraged to take the necessary steps to ensure the quality and integrity and up-to-date state of the information that is being gathered pertaining to community trees.

For more information more about the BMP companion guides, visit: www.isa-arbor.com

Rick Harper is the Extension Assistant Professor in the Department of Environmental Conservation at UMass-Amherst. Dennis Ryan is Professor and Program Coordinator of the Arboriculture/Urban Forestry Program at UMass-Amherst.

2014 DCR Tree Steward Training—Register Today!

The 2014 DCR Tree Steward Training will take place Friday, October 24, to Saturday, October 25, at the Harvard Forest in Petersham. At this year's session: learn about tree planting, soils, i-Tree, pruning, tree ID, urban forest pests, tree wardens, and funding urban forestry programs and participate in a roundtable discussion. We'll have a mix of indoor and outdoor sessions. [TST Registration Materials](http://www.mass.gov/eea/agencies/dcr/conservation/forestry-and-fire-control/branching-out-additional-programs.html) are available online: <http://www.mass.gov/eea/agencies/dcr/conservation/forestry-and-fire-control/branching-out-additional-programs.html>.

DCR Urban and Community Forestry Challenge Grants

Challenge grants are **50-50 matching grants** (75-25 for environmental justice projects) to municipalities and non-profit groups in Massachusetts communities of **all sizes** for the purpose of building local capacity for excellent urban and community forestry at the local and regional level. The USDA Forest Service provides funding for the grant program, and DCR administers the grants with guidance from the Massachusetts Tree Wardens' and Foresters' Association. The DCR Urban and Community Forestry Program assists communities and nonprofit groups in their efforts to protect and manage community trees and forest ecosystems, with the ultimate aim of improving the environment and enhancing the livability of all of Massachusetts's communities.

For more information on the Challenge Grants (including our NSTAR Go Green grants and National Grid Partnership Grants contact, Julie Coop at 617-626-1468 or julie.coop@state.ma.us or Mollie Freilicher at 413-577-2966 or mollie.freilicher@state.ma.us.

Intent to Apply due October 1. Application due November 1

Species Spotlight—Black Walnut, *Juglans nigra*

By **Mollie Freilicher**
MA-DCR
Community Action Forester

While black walnut is native to the eastern United States, in the wild, its native range is

spotty in New York and New England. It is more of a southerly species, although a few northern pockets exist. More commonly, native black walnut stands are found in Pennsylvania, south to Georgia, west to Texas, and north to southeastern South Dakota. Even in pre-Colonial times, the tree was not abundant in Massachusetts. With its excellent qualities, both for

furniture and for gunstocks that went to the national armory in Springfield, MA, settlers quickly eliminated most high-quality black walnut trees from the wild in Massachusetts and New England. In his *Report on Trees and Shrubs Growing in Massachusetts*, G.B. Emerson reported that black walnut occurred in small numbers or as a solitary tree in “several” parts of Massachusetts and that people were growing it successfully throughout the state. Since then, it has naturalized in many areas.

Black walnut is a stately tree, growing to 150 feet tall, although in New England, in open-grown conditions, it is typically 50 to 75 feet tall with a similar spread. Black walnut thrives in open, sunny conditions and does not tolerate shade. In the wild, black walnut grows in well-drained soils along streams, and also in mixed woods.

Black walnut is alternate and pinnately compound. Leaves can be 12 to 24 inches long and consist of 15 to 23

lanceolate, irregularly toothed, stalkless leaflets. There is often no terminal leaflet. Leaflets are green to dark green, and turn yellow in the fall. Leaves give off an odor when crushed. Buds are pale and silky, with an ovoid terminal bud. Twigs are stout, brown, and a little downy. If one cuts a twig on an angle, the chambered pith is visible. Closely-related butternut also has chambered pith, but the pith of black walnut is paler. The leaf scar resembles the face of a monkey. (The leaf scar of butternut also resembles a monkey's face, but with a

hairy brow.) Bark of black walnut is dark brown with deep furrows. From a distance, black walnut can be confused with ash, but if you look closely at the canopy, it will look a little more irregular than ash, and the alternate arrangement of twigs will be apparent upon closer inspection.

Flowers of black walnut are monoecious and appear in spring, with the leaves. Male flowers are catkins and female flowers have a two-lobed style. The flowers are small and greenish and are not of ornamental importance. The fruit is usually single or paired and is a nut that ripens in the fall. Initially, the nut has a greenish, fleshy outer husk that will turn brown and eventually open, in time, after the fruit falls to the ground. Inside the fleshy part, is a thick, hard outer covering that protects an edible seed. The seed is sweet and oily and provides food for humans and animals alike. The fleshy, outer hull can be used to make a brown dye that is quite persistent. During World War II, the ground-up shells were utilized as an abrasive to clean airplane pistons, and they have also been used to clean jet engines and gears in automobiles, as an inert additive in oil drilling mud, filler in dynamite, insecticides, and cosmetics, and as an abrasive in other industries. Black walnut is probably most famous for its wood. As a material for gunstocks, black walnut was smooth, did not split and is said to have less recoil than stocks made from other wood. As furniture and, more commonly, veneer, the rich color and beautiful grain of black walnut is apparent. Black walnut is so prized that there have been cases where standing trees have been stolen. Native Americans and settlers

used black walnut much more than we do today, although there is still a black walnut industry in the Midwest that processes nuts and shells for some of the uses described above.

In the landscape, black walnut does well in open spaces that parks and lawns provide,

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Species Spotlight—Continued

but it is likely that Thousand Cankers Disease will limit the future use of black walnut in the landscape. Native to the western United States, Thousand Cankers Disease (TCD) is a disease complex that involves the fungus *Geosmithia morbida* and the walnut twig beetle (*Pityophthorus juglandis*). The beetles can carry spores of the fungus, and as the beetles construct their galleries under the bark, the fungus can be transmitted to the phloem, where it can infect the tree. Infected trees will show branch dieback, small cankers on branches and on the trunk, and evidence of the walnut twig beetle. While not yet reported in Massachusetts, TCD has spread from the West and can now be found as close to Massachusetts as Pennsylvania.

Black walnut is susceptible to other pests and pathogens, some of which are serious, including walnut caterpillars, fusarium cankers, and a few root rot diseases that affect seedling production, anthracnose, and leaf spot. A study in southern Illinois showed over 300 different species of insects on black walnut, making it an important species for insects. In his book, *Bringing Nature Home*, Doug Tallamy writes that black walnut can support 100 kinds of caterpillars, including caterpillars of luna moths and banded hair-streaks.



Photos: Form: UConn; Leaf, Leaf scar: Virginia Tech; Chambered pith: Vanderbilt; Male flower: UConn; Female flower, Bark: Virginia Tech; fruit: UConn.

Black Walnut Edible Notes from Russ Cohen

The following is excerpted from the Essex County Greenbelt newsletter.

The main edible product of Black Walnut trees are the ripe nuts, which are in season in this area in October. The nuts are surrounded by a spherical, green husk about 2 1/2 inches in diameter – about the same size and diameter as an old, green tennis ball. (Butternut husks are the same size and shape as a green goose egg.)

Black Walnut trees will often drop some if not all their leaves before their nuts, which makes the nuts easy to spot. Wait until the nuts drop off the tree to harvest, but don't wait too long, or the squirrels will beat you to them. A typical Black Walnut tree produces dozens if not hundreds of nuts, which won't all ripen and fall off the tree at the same time, so you can typically gather a bunch of nuts and then return a week or so later to get those that have fallen in the meantime.

The first step in processing black walnuts is to remove the outer husks from the shells. This is admittedly an unpleasant task, as the inside of a fresh husk is yellowish and juicy, and touching this inner husk pulp with your bare hands will stain them brown for several weeks. Partially-rotted husks will be yellow with brown spots on the outside. On the inside, you will find black pulp that can also stain your skin. Sometimes the decaying husks are colonized by fly larvae, which is understandably off-putting. Don't let them bother you as their presence does not in any way affect the nut inside the shell. (One fringe benefit to this is that the nastiness of the husk is

such that most property owners around here consider the nuts a nuisance, and are more than happy to have you take as many as you want).

One technique to remove the husks is to roll out your gathered nuts on pavement and drive over them several times. The technique I use is simply to stomp on the husks where I find them under the tree, and then roll them around under my shoe to remove the husk. Once you've got most of the husks off, remove any residue still clinging to the shells by filling a five-gallon plastic bucket about halfway with nuts, then adding water until the bucket is 3/4 full; stir vigorously with a stick to rub off the remaining husk bits. Repeat if necessary.

The next step is to spread out the de-husked nuts on a cool dry surface (newspaper on a garage floor works well) so they can thoroughly dry for at least several weeks; the nut meats will be tastier and easier to shell when dry. Unshelled, dry Black Walnuts will stay fresh in a dry location for several months or longer. Once shelled, however, they should be eaten within a week, or refrigerated or frozen to preserve freshness. Black Walnut shells are notoriously hard to crack open.

The shells are in fact so hard that they are used commercially as an industrial abrasive. While they will break most conventional nut crackers, a vise or hammer works fine.

Black Walnuts have a robust and aromatic flavor, considerably different from and much stronger than the culti-

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Edible Notes from Russ Cohen (Continued)

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vated, store-bought "English" (actually Persian) Walnut. Black Walnuts would not work well in any recipe that requires the nut flavor to fade into the background, because it won't. (Butternuts have a milder flavor.) On the other hand, Black Walnuts do work in recipes without competing flavors.

One easy and tasty way to use Black Walnuts is to make Black Walnut Honey Butter. Here's the simple recipe:

Black Walnut Honey Butter

2 cups Black Walnut nut meats

3/8 tsp. salt

3 1/2 Tbsp. honey

(Feel free to vary these proportions to suit your taste.)

Spread the nut meats on a baking tray and gently roast in a regular or toaster oven at 200° F for 1/2 hour, taking care not to burn or overcook the nut meats. Combine the roasted nut meats, salt and honey in a food processor and blend for several minutes until peanut butter-like in texture. Makes approximately 12 ounces. Serve the nut butter warm to show off its unique fragrance. The aromatic black walnuts, saltiness of the salt and the sweetness of the honey will delight your taste buds with three pleasing flavors at once.

For a more challenging recipe, I recommend this one:

Black Walnut Baklava

You'll need a pastry brush and phyllo dough for this recipe. Phyllo dough can usually be found in the frozen foods section of most supermarkets. Thaw out the dough overnight in the refrigerator or for five hours at room temperature; leave it in the box until you are ready to use.

Preheat oven to 325°F. Butter the bottom and sides of a 9" X 13" baking pan.

Coarsely chop (or finely grind, according to your preference) 3 cups of black walnuts. You might want to lightly toast the nuts first to help bring out their aroma and help retain their crunchiness.

In a small bowl, stir together:

1/4 cup sugar

1 tsp. grated lemon zest

1/2 tsp. ground cinnamon

Melt 1/2 lb. (two sticks) of butter. Roll out the phyllo dough on a smooth work surface. Trim half the phyllo into 9" X 13" inch sheets, then put the remaining dough

back in the package and save for another use. Place two sheets at a time into the bottom of the baking pan, then brush with melted butter.

Repeat this twice for a total of six sheets; then sprinkle on top of that half of the chopped nuts and half of the sugar/lemon zest/cinnamon mixture. Lay down butter before putting down the next. Sprinkle over them the remaining nuts and sugar/lemon zest/cinnamon mixture.

Cover that with all the remaining phyllo sheets (one pair at a time, brushing each pair with melted butter before applying the next). Brush the top with the remaining butter.

Using a sharp serrated knife, cut through all the layers to make 2"-wide diamonds or squares (make sure to do this before baking). Pin down each cut corner with a whole clove; you'll need about 1 1/2 Tbsp. of whole cloves for this task.

Bake at 325°F for 30 minutes, then reduce temperature to 300°F and continue to bake until the baklava is golden brown, about 30-60 minutes.

In the meantime, combine the following five ingredients in a saucepan:

1/2 cup sugar

1 cup water

3/4 cup honey

1 Tbsp. fresh lemon juice

Zest (outside peel removed in large strips) of one orange

Bring this mixture to a gentle boil and then simmer, uncovered, for 15 minutes.

Strain the hot syrup and pour evenly over the baked baklava. Allow to cool completely (at least four hours) to room temperature before serving.

Russ Cohen works with the Division of Ecological Restoration/Riverways Program of the Massachusetts Department of Fish and Game. He is the author of the book, *Wild Plants I Have Known and Eaten*, available at the Essex County Greenbelt Association, www.ecga.org.



Growing on Trees

Arboriculture and Community Forestry at UMass Amherst

We are fortunate to have a premier arboricultural program offering Associate's, Bachelor's, and Graduate Degrees right here in Massachusetts.

Established in 1893, the Stockbridge School's Arboriculture program is the oldest in the country and has educated many leaders in the tree care industry. The Stockbridge School carries on a proud tradition by offering a two-year education designed to prepare students for a career in arboriculture. Classes are based on the latest arboricultural research and include many outdoor labs, to give students the necessary hands-on skills to succeed. Many graduates start their own, successful tree care companies or secure jobs in local, state, and federal agencies or with non-profits. "The tree care industry today faces a critical shortage of trained professionals," says Peter Gerstenberger of the Tree Care Industry Association. In the Northeast, wages have increased dramatically and are above the national average. Upon completion of the Associate's program, Stockbridge students also have the ability to transfer seamlessly to a Bachelor's Degree program through the Department of Environmental Conservation at UMass Amherst.



To find out more about how you or someone you know can earn an Associate's, Bachelor's, or Graduate Degree in Arboriculture and Community Forestry at UMass Amherst, contact:

H. Dennis Ryan

Phone: (413) 545-6626

Email: dr@eco.umass.edu

Or go to <http://stockbridge.cns.umass.edu/program/arboriculture-community-forest-management>.

Oregon State University Graduate Certificate Program

The Oregon State University Graduate Certificate in Urban Forestry prepares you to think both scientifically and strategically. You will learn to effectively apply the principles of urban forestry, green infrastructure, planning, policy, management, and leadership to the management of urban forests and urban forestry programs.

Through the completion of this program, you will gain the knowledge and skills to address complex urban natural resource issues at national, state, or local levels.

The Graduate Certificate in Urban Forestry program at Oregon State is the first of its kind offered online.

The knowledge and skills you gain from this program will help you:

- Advance your urban forestry program through improved planning, management, and leadership approaches
- Address critical natural resource challenges, such as climate change and invasive species
- Make your cities more livable by effectively capitalizing on the economic, environmental, and social benefits that urban trees provide.

For more information, go to <http://ecampus.oregonstate.edu/online-degrees/graduate/urban-forestry/>.

Looking for a quick, local educational program? Check out UMass Green School, page 8.

We do our best to ensure that listings are accurate, but please check with program organizers for the most up-to-date information.

Growing on Trees

From the New England Chapter- International Society of Arboriculture

48th Annual Conference

September 28-30, 2014 - Sheraton Burlington, Vermont

The New England Chapter ISA, in partnership with the Utility Arborist Association, is pleased to announce that registration for the 2014 Annual Conference and Tradeshow is now open. [Sign up](#) and hear industry leaders speak about tree risk assessment, personal protective equipment, utility topics, emerald ash borer, trees and storm water, energy-saving trees, and more. The keynote speaker is Jim Skiera, Executive Director of the International Society of Arboriculture.

There are also pre-conference workshops on Sunday, September 28, 2014:

Pruning Trees, Shrubs, and Vines—[Register here](#)
EHAP—Electrical Hazard Awareness Program—

[Register here](#)

CPR and First Aid—[Register here](#)

Registration for workshops is available at:

http://newenglandisa.org/annual_conference.html

Master's Challenge Championship

October 18, 2014, UMass Amherst
Gear Inspection Friday, October 17

Next year, the International Tree Climbing Competition (ITCC) will be held on March 21, 2015, in Tampa, Florida. To accommodate the early timing of the ITCC, the New England Chapter ISA will run the Chapter's annual Tree Climbing Championship (TCC) on October 18, 2014.

Due to lack of daylight hours, the Chapter will be running a different format for the TCC by holding an open Masters Challenge Championship.

The event is open to climbers who:

- are residents of New England and
- are members of the NEC-ISA and
- have competed in a Chapter TCC or CT-TCC event in the past.

For more information, go to www.newenglandisa.org.

6th Annual Women's Tree Climbing Workshop

October 31-November 2

Harvard Forest, Petersham, MA

Level II - for previous attendees or climbers with experience in the trees... to advance your acquired skills

Agenda at a glance:

- Throwline - taking it to the next level
- Work-planning while in the tree
- Aerial rescue techniques and information
- "LTBH" = long-term body health tips

For registration and additional information, go to www.newenglandisa.org.

Society of Municipal Arborists 50th Annual Conference

November 3-4, Charlotte, NC

The SMA is an organization of municipal arborists and urban foresters, and their membership also includes consultants, commercial firms, and citizens who actively practice or support some facet of municipal forestry. Attend the conference and learn about i-Tree, Tree Risk Assessment Qualification, tree care standards, partnering with engineers, citizen stewardship of trees, and more. Learn more about the conference and register at the SMA website: <http://www.urban-forestry.com/>

The SMA Conference will be followed by the Partners in Community Forestry Conference.
For more information, go to
www.arboday.org/pcf.

Growing on Trees

UMASS Extension Green School

Location: Holiday Inn, 265 Lakeside Ave., Marlborough, MA 01752

Dates: October 29, 2014 to December 11, 2014

Green School is a comprehensive certificate short course for Green Industry professionals held bi-annually and taught by UMass Extension specialists and University of Massachusetts faculty. This course is designed for horticultural practitioners, such as landscapers, professional gardeners, lawn care specialists, and arborists wishing to gain an understanding of plant care fundamentals and strategies and their relation to environmental quality. Green School attendees learn about sustainable methods of plant selection, plant maintenance, and pest and nutrient management which lay the foundation for environmentally-appropriate decision-making. Through in-depth discussion of up-to-date techniques, participants develop an understanding of how proper management practices can minimize impact on precious natural resources, such as soil and water. The Green School curriculum, which emphasizes a systems-based approach to plant care, is based on current research and focuses on environmental stewardship, Best Management Practices (BMPs), and integrated pest management (IPM).

Educational Tracks

Green School students must choose a "specialty track" when registering. Three tracks are offered.

Click the corresponding track name for complete information:

Landscape Management

Turf Management

Arboriculture

Registration

Choose an option below to register online or by mail.

To register by mail with check or PO:

[Download printable registration form](#) 

To register online with a credit card (additional fees for online registrations): [Enter online registration system \(https://www.regonline.com/Register/Checkin.aspx?EventID=1552757\)](https://www.regonline.com/Register/Checkin.aspx?EventID=1552757)

Key Information

Daily Schedule: With the exception of the first day, which starts at 8:45 a.m. for everyone, lectures run daily 9:30 a.m. to 3:30 p.m., with a one-hour break for lunch. The daily quiz (mandatory for those earning a certificate) starts promptly each day at 9:00 a.m.

Pesticide & Professional Contact Hours: 12 contact hours for Massachusetts categories 29, 36, 37; 6 contact hours for Massachusetts Licensed Applicator Training. Attendance at Green School will satisfy part of the experience requirement necessary to sit for the certification exam in Categories 29, 36, 37. Pesticide credits awarded will be valid for all New England states. Credits available for MCH, MCLP, MCA, ISA, SAF, CFE and AOLCP certifications.

Certificate: Awarded upon achieving a 75% average score. There will be a daily quiz on the preceding session's material, plus two take-home tests. An average of all quiz grades will comprise the final grade. It is not necessary to take the daily quizzes to attend Green School if receiving the certificate is not desired.

Certification Exam Preparation: Green School is also helpful for people preparing to take the following professional certification exams - Massachusetts Certified Arborist (MCA) offered by the Massachusetts Arborist Association (MAA), Massachusetts Certified Horticulturist (MCH) offered by the Massachusetts Nursery and Landscape Association (MNLA), and the Massachusetts Certified Landscape Professional (MCLP) offered by the Massachusetts Association of Landscape Professionals (MLP).

UMass Academic Credits: Three UMass academic credits are available for an **additional** fee of \$1158 for MA residents and \$2019 for non-residents.

Weather Cancellation: To find out if a class has been canceled, call after 6:00 AM on the morning of class. Call either 413-545-0895 or 508-892-0382.

Questions?

Send an e-mail to eweeks@umext.umass.edu. You may also call the UMass Extension Landscape, Nursery & Urban Forestry Program at (413) 545-0895 or the UMass Extension Turf Program at (508) 892-0382.

Growing on Trees

Sustainable SITES Releases v2 Standards

by Toby Wolf and Nyssa Gyorgy

The systems that promote and support ecological landscape practices have just taken another stride forward. The Sustainable Sites Initiative (SITES) has released the SITES v2 Rating System, which is the most comprehensive rating system for developing sustainable landscapes. As the LEED program does for buildings, SITES provides guidelines and standards for every stage of a project, from site selection through operation.

The original SITES rating system, which was introduced in 2009, was tested through a two-year pilot program that involved more than 160 projects. SITES v2 is a result of the knowledge gained through this program as well as peer-reviewed literature and case-study precedents. SITES v2 is the first rating system available for public use to pursue certification in sustainable landscapes.

SITES v2 includes a [Rating System and a Reference Guide](#). The Rating System is a free e-document listing prerequisites and credits that are used for measuring site sustainability. The Reference Guide offers additional information for project certification and is available for purchase.

SITES v2 can be applied not only to open spaces but also to new buildings and major renovations. It will be useful to anyone in the design, construction or maintenance fields for landscape projects such as corporate headquarters, national and city parks, academic campuses, streetscapes, and residential neighborhoods or private homes.

SITES is an interdisciplinary partnership led by the American Society of Landscape Architects (ASLA), the [Lady Bird Johnson Wildflower Center](#) at The University of Texas at Austin, and the [United States Botanic Garden](#) to transform land development and management practices through the nation's first voluntary guidelines and rating system for sustainable landscapes, with or without buildings.

ELA is a Participating Organization in SITES.

Toby Wolf and Nyssa Gyorgy are a Principal and the Marketing Director, respectively, at Wolf Lighthall, a landscape architecture and planning firm in Lincoln, MA. For more information, see www.wolfllighthall.com.

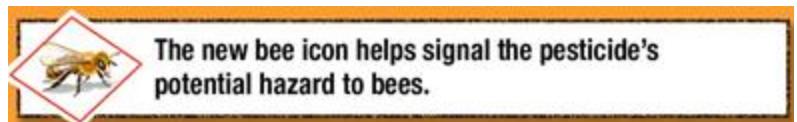
Seen in the [newsletter](#) of the Ecological Landscaping Association.



Shoemaker Green at University of Pennsylvania, a SITES pilot project certified in 2013.

Pesticide Label Update

New labels - The EPA recently introduced a label change for pesticides used outdoors that contain one or more of the neonicotinoids to protect bees. You may see this on labels of products that you use. A "Bee Hazard" warning and icon has generally been required to be included in the Environmental Hazards section of the label:



The EPA bee toxicity groupings and label statements are as follows:

High (H) - Bee acute toxicity rating: LD50 = 2 micrograms/bee or less. The label has the following statement: "This product is highly toxic to bees and other pollinating insects exposed to direct treatment or residues on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds if bees or other pollinating insects are visiting the treatment area." If the residues phrase is not present, this indicates that the pesticide does not show extended residual toxicity.

Moderate (M) - Product contains any active ingredient(s) with acute LD50 of greater than 2 micrograms/bee, but less than 11 micrograms/bee. Statement: "This product is moderately toxic to bees and other pollinating insects exposed to direct treatment or residues on blooming crops or weeds. Do not apply this product if bees or other pollinating insects are visiting the treatment area."

Low (L) - All others. No bee or pollinating insect caution required.

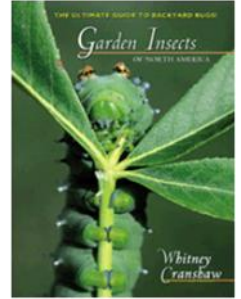
From UMass Extension

Gleanings

What We're Reading

Garden Insects of North America is a comprehensive and user-friendly guide to the common insects and mites affecting yard and garden plants in North America. It includes full-color photos and concise, clear text, describing the many species associated with shade trees and shrubs, turfgrass, flowers, ornamental plants, vegetables, and fruits--1,420 of them, including crickets, katydids, fruit flies, mealybugs, moths, maggots, borers, aphids, ants, bees, and many, many more. For particularly abundant bugs adept at damaging garden plants, Cranshaw includes management tips.

The author, Whitney Cranshaw, is Professor and Extension Specialist at Colorado State University. (Text adapted from Princeton University Press.)



October is NeighborWoods Month

National NeighborWoods® Month is Alliance for Community Trees' annual campaign to plant and care for community trees during the month of October. Each year, tens of thousands of volunteers take action to make their communities greener and healthier by planting trees—turning their neighborhoods into vibrant, livable NeighborWoods®! Join the celebration and register your event at www.neighborwoodsmonth.org

Christoph Gielen's Aerial Photographs Document the Failures of Sprawl

07/14/2014 by Jared Green

In his compelling new book *Ciphers*, Christoph Gielen shows us the amazing shapes of suburbs, which he captures while hanging out of a helicopter. Gielen's goal is to use his aerial photography to show us how "off-kilter" our sprawled-out communities have become. He hopes to "trigger a re-evaluation of our built environment, to ask: what kind of development can be considered sustainable?" The physical forms of these communities in Florida, Arizona, Texas, and California and overseas in Scotland, Germany, and China are other-worldly in themselves. The photographs titles are equally as abstract, mostly marked as *Untitled* or perhaps simply the development's name, like Sterling Ridge or Eden Prairie, which are themselves ironic, given how divorced they are from their environment. The photographs of these places, taken together, truly are ciphers, in that they help us understand the underlying logic, the code that shaped these sprawled-out places. Read the full story in the ASLA blog, [The Dirt](#).



All photographs from the book *Ciphers*, cropped / Copyright Christoph Gielen

News



Urban Heat Boosts Some Pest Populations 200-Fold, Killing Red Maples

Urban 'heat islands' are slowly killing red maples in the southeastern United States, research shows. One factor that researchers have found that impacts the situation is that warmer temperatures increase the number of young produced by the gloomy scale insect -- a significant tree pest -- by 300 percent, which in turn leads to 200 times more adult gloomy scales on urban trees. Read the full story at [ScienceDaily](#)

This image highlights the impact that a scale insect infestation can have on red maples. The tree on the left is infested with scales, while the tree on the right is not. Photo: Adam Dale



News

New Weapons Used in Fight Against Invasive Insect in Berkshires

By Edward Damon

July 21, 2014—Pittsfield -- State environmental officials are expanding their arsenal to combat the spread of an invasive insect that is threatening the region's population of ash trees. The Department of Conservation is experimenting with new green, multi-funnel traps as one such weapon against the emerald ash borer. The traps have been hung on trees in Central Berkshire, including along Washington Mountain Road in Washington. "We've found the insects are more attracted to those types of traps," said Ken Gooch, supervisor of the DCR's Forest Health program. The metallic green insect, which Gooch said has "continued to spread," has most recently been found in tree traps near the Richmond and Pittsfield line, and the Washington and Dalton line. Read the full story at [The Berkshire Eagle](#).

Urban Heat—Not a Myth, And Worst Where It's Wet

A new Yale-led study quantifies for the first time the primary causes of the "urban heat island" (UHI) effect, a common phenomenon that makes the world's urban areas significantly warmer than the surrounding countryside and may increase health risks for city residents. In an analysis of 65 cities across North America, researchers found that variation in how efficiently [urban areas](#) release [heat](#) back into the lower atmosphere—through the process of convection—is the dominant factor in the daytime UHI effect. This finding challenges a long-held belief that the phenomenon is driven principally by diminished evaporative cooling through the loss of vegetation. The effects of impaired "convective efficiency" are particularly acute in wet climates, the researchers say. In cities such as Atlanta, Georgia, and Nashville, Tennessee, this factor alone contributes a 3-degree C rise in average daytime temperatures, according to the study, published July 10 in the journal *Nature*. Read the full story at [Phys.org](#).

Improvised Devices Help Water Drought-Stricken L.A. Trees

Los Angeles officials and environmentalists have begun deploying emergency low-tech watering devices to try to save trees in desperate need of water during the drought. The improvised contraptions, called drought response irrigation pods or "irricades," are made with hollow, plastic traffic barriers and filled with recycled water that slowly trickles into the soil through attached soaker hoses. Read the full story at [latimes.com](#).

To Make Children Healthier, a Doctor Prescribes a Trip to The Park

By Sam Sanders and Steven Jackson

July 14, 2014—Washington, D.C.—When Dr. Robert Zarr wanted a young patient to get more exercise, he gave her an unusual prescription: Get off the bus to school earlier. "She has to take a bus to the train, then a train to another bus, then that bus to her school," says Zarr, a pediatrician at [Unity Health Care](#), a clinic that serves low-income and uninsured families in Washington, D.C. So the prescription read: "Walk the remaining four blocks on the second bus on your route to school from home, every day." Kelssi Aguilar, his 13-year-old patient, wasn't exactly excited about the change at first. "He told me about the four blocks and I told him it was a 40-minute walk and I was too lazy," she said. "I was thinking, am I really doing this? I'm going to be late for school." Kelssi was actually 10 minutes early the first day she tried the modified route. Kelssi has kept up the walking. And Zarr says she's moved from obese to just overweight — which is very good. About 40 percent of Zarr's young patients are overweight or obese, which has led the doctor to come up with ways to give them very specific recommendations for physical activity. And that has meant mapping out all of the parks in the District of Columbia — 380 parks so far. Read or listen to the complete story at [npr.org](#).

Tree Rings Solve Mystery of World Trade Center Ship

By Megan Gannon

July 28, 2014—In July 2010, amid the gargantuan rebuilding effort at the site of the World Trade Center in Lower Manhattan, construction workers halted the back-hoes when they uncovered something unexpected just south of where the Twin Towers once stood. At 22 feet (6.7 meters) below today's street level, in a pit that would become an underground security and parking complex, excavators found the mangled skeleton of a long-forgotten wooden ship. Now, a new report finds that [tree rings](#) in those waterlogged ribs show the vessel was likely built in 1773, or soon after, in a small shipyard near Philadelphia. What's more, the ship was perhaps made from the same kind of white oak trees used to build parts of Independence Hall, where the [Declaration of Independence](#) and U.S. Constitution were signed, according to the study published this month in the journal *Tree-Ring Research*. [[See Photos of the Ship and Its Tree Rings](#).] Read the full story at [Discovery.com](#).

On the Horizon

Sept 4	Urban Forestry Today Webinar, Communicating with Technology, www.joinwebinar.com enter the ID code: #150-717-775)	Oct 5	Community Forest Outreach Event, Weston, MA, www.landssake.org
Sept 12	Connecticut Chipper Operator Workshop, TCIA, North Franklin, CT, www.tcia.org	Oct 10	Registration deadline for DCR Tree Steward Training
Sept 15-17	Precision Felling, Chainsaw Safety and Handling, ArborMaster, Martha's Vineyard, www.arbormaster.com	Oct 14-15	Level I Precision Tree Felling, Chainsaw Safety & Handling, ArborMaster, Attleboro, MA, area www.arbormaster.com
Sept 18-19	Tree Climbing Methods, Work Positioning Best Practice, ArborMaster, Martha's Vineyard, www.arbormaster.com	Oct 16-18	Level I Tree Climbing Methods, Work Positioning & Best Practice, ArborMaster, Attleboro, MA, area www.arbormaster.com
Sept 19	New Hampshire Chipper Operator Workshop, TCIA, Amherst, NH www.tcia.org	Oct 16	Chipper Operator Workshop, Morbark, North Oxford, MA, www.tcia.org
Sept 23	MA Arborists Association Dinner Meeting, Framingham, www.massarbor.org	Oct 17-19	NEC-ISA Master's Challenge Championship, UMass Amherst, www.newenglandisa.org
Sept 28-30	New England ISA – 48th Annual Conference & Tradeshow, Burlington, VT, www.newenglandisa.org	Oct 21	MA Arborist Association Safety Saves, Wellesley, www.massarbor.org
October	NeighborWoods Month , www.neighborwoodsmoonh.org	Oct 24-25	DCR Tree Steward Training , Petersham, MA
Oct 1	Deadline: Intent to Apply: Urban and Community Forestry Challenge Grants	Oct 31-Nov 2	Women's Tree Climbing Workshop-Level II, Petersham, www.newenglandisa.org
Oct 2	PDS Chainsaw Safety, Mass. Tree Wardens' and Foresters' Assoc., www.masstreewardens.org	Nov 1	Deadline: DCR Urban and Community Forestry Challenge Grants
Oct 3	Massachusetts Certified Arborist Exam, www.massarbor.org	Nov 11-12	Certified Tree Care Safety Professional Workshop, Tree Care Industry Association, Hartford, CT, www.tcia.org
		Nov 13-15	TCI Expo 2014, Tree Care Industry Association, Hartford, CT, www.tcia.org

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If you have a topic you'd like to see covered or want to submit an item to *The Citizen Forester* (article, photo, event listing, etc.), please contact [Mollie Freilicher](#) or click [here](#).

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